United Nations S/2013/513

Security Council

Distr.: General
28 August 2013

Original: English

Note by the President of the Security Council

At its 6335th meeting, held on 9 June 2010 in connection with the item entitled "Non-proliferation", the Security Council adopted resolution 1929 (2010).

In paragraph 4 of the resolution, the Security Council requested the Director General of the International Atomic Energy Agency to communicate to the Security Council all his reports on the application of safeguards in the Islamic Republic of Iran.

Accordingly, the President herewith circulates the report of the Director General dated 28 August 2013 (see annex).

13-46135 (E) 120913

Please recycle

Annex

Letter dated 28 August 2013 from the Director General of the International Atomic Energy Agency addressed to the President of the Security Council

I have the honour to enclose herewith the report requested by the Security Council in its resolution 1929 (2010), which I have submitted today to the Board of Governors of the International Atomic Energy Agency (see enclosure).

I should be grateful if you would bring this letter and the enclosed report to the attention of all members of the Security Council.

(*Signed*) Yukiya **Amano**

Enclosure*

[Original: Arabic, Chinese, English, French, Russian and Spanish]

Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran

Report by the Director General

A. Introduction

1. This report of the Director General to the Board of Governors and, in parallel, to the Security Council, is on the implementation of the NPT Safeguards Agreement[1] and relevant provisions of Security Council resolutions in the Islamic Republic of Iran (Iran).

2. The Security Council has affirmed that the steps required by the Board of Governors in its resolutions[2] are binding on Iran.[3] The relevant provisions of the aforementioned Security Council resolutions[4] were adopted under Chapter VII of the United Nations Charter, and are mandatory, in accordance with the terms of those resolutions.[5]

3. This report addresses developments since the Director General's previous report (GOV/2013/27, 22 May 2013), as well as issues of longer standing. It focuses on those areas where Iran has not fully implemented its binding obligations, as the

* Circulated to the Board of Governors of the International Atomic Energy Agency under the symbol GOV/2013/40.

[1] The Agreement between Iran and the Agency for the Application of Safeguards in Connection with the Treaty on the Non Proliferation of Nuclear Weapons (INFCIRC/214), which entered into force on 15 May 1974.

[2] The Board of Governors has adopted 12 resolutions in connection with the implementation of safeguards in Iran: GOV/2003/69 (12 September 2003); GOV/2003/81 (26 November 2003); GOV/2004/21 (13 March 2004); GOV/2004/49 (18 June 2004); GOV/2004/79 (18 September 2004); GOV/2004/90 (29 November 2004); GOV/2005/64 (11 August 2005); GOV/2005/77 (24 September 2005); GOV/2006/14 (4 February 2006); GOV/2009/82 (27 November 2009); GOV/2011/69 (18 November 2011); and GOV/2012/50 (13 September 2012).

[3] In resolution 1929 (2010), the Security Council, inter alia: affirmed that Iran shall, without further delay, take the steps required by the Board of Governors in GOV/2006/14 and GOV/2009/82; reaffirmed Iran's obligation to cooperate fully with the IAEA on all outstanding issues, particularly those which give rise to concerns about the possible military dimensions of the Iranian nuclear programme; decided that Iran shall, without delay, comply fully and without qualification with its Safeguards Agreement, including through the application of modified Code 3.1 of the Subsidiary Arrangements; and called upon Iran to act strictly in accordance with the provisions of its Additional Protocol and to ratify it promptly (paras. 1-6).

[4] The United Nations Security Council has adopted the following resolutions on Iran: 1696 (2006); 1737 (2006); 1747 (2007); 1803 (2008); 1835 (2008); and 1929 (2010).

[5] By virtue of its Relationship Agreement with the United Nations (INFCIRC/11, Part I.A), the Agency is required to cooperate with the Security Council in the exercise of the Council's responsibility for the maintenance or restoration of international peace and security. All Member States of the United Nations agree to accept and carry out the decisions of the Security Council and, in this respect, to take actions which are consistent with their obligations under the United Nations Charter.

full implementation of these obligations is needed to establish international confidence in the exclusively peaceful nature of Iran's nuclear programme.

B. Clarification of Unresolved Issues

4. In November 2011, the Board of Governors adopted resolution GOV/2011/69, in which, inter alia, it stressed that it was essential for Iran and the Agency to intensify their dialogue aimed at the urgent resolution of all outstanding substantive issues for the purpose of providing clarifications regarding those issues, including access to all relevant information, documentation, sites, material and personnel in Iran. In September 2012, the Board of Governors adopted resolution GOV/2012/50, in which, inter alia, it decided that Iranian cooperation with Agency requests aimed at the resolution of all outstanding issues was essential and urgent in order to restore international confidence in the exclusively peaceful nature of Iran's nuclear programme. The Board of Governors also stressed that it was essential for Iran to immediately conclude and implement a structured approach for resolving outstanding issues related to possible military dimensions to its nuclear programme, including, as a first step, providing the Agency with the access it had requested to relevant sites. In light of these resolutions, between January 2012 and May 2013, Agency and Iranian officials held ten rounds of talks in Vienna and Tehran, including during a visit by the Director General to Tehran in May 2012, aimed at reaching agreement on a structured approach document. However, no concrete results were achieved.

5. The Agency has not been able to begin substantive work with Iran on resolving the outstanding issues, including those related to possible military dimensions to Iran's nuclear programme. Since the Director General's previous report, no further talks aimed at concluding the structured approach document have been held. However, another round of talks is planned for 27 September 2013 in Vienna.

6. To restore international confidence in the exclusively peaceful nature of Iran's nuclear programme, it is essential that the structured approach enable the Agency to conduct effective verification, that is, to conduct those verification activities that it considers necessary to support credible conclusions. Therefore, it is important that the structured approach document be sufficiently unambiguous to minimize any possible future misunderstandings between the Agency and Iran in implementing the structured approach. The Agency has assured Iran that it will take into account Iran's security concerns and has indicated its willingness to include in the structured approach document modalities that address those concerns.

7. The following describes the Agency's views regarding the main elements of the structured approach document on which it has not been possible to reach agreement:[6]

- It is essential for the Agency to address all outstanding issues, not just those related to possible military dimensions to Iran's nuclear programme. It is important, therefore, that the structured approach document, which is focused on those issues outlined in the annex to the Director General's November 2011 report (GOV/2011/65), make explicit reference to the fact that all other outstanding issues remain to be addressed separately;

[6] Iran's views are reflected in its statements during meetings of the Board of Governors and, most recently, in INFCIRC/853 (23 July 2013).

- To ensure comprehensive coverage and to remove ambiguity, it is also important that all aspects of the possible military dimensions, as reflected in the annex to GOV/2011/65, be explicitly addressed in the structured approach document;[7]
- The Agency needs to be able to request further information and conduct follow up actions as it considers necessary. While taking into account Iran's security concerns, these follow up actions should not be subject to undue restrictions on access to "all relevant information, documentation, sites, material and personnel in Iran" (GOV/2011/69);
- The Agency should not be expected, nor would it be in a position, to provide at the outset all details of how, when and where it will conduct its verification activities;[8]
- The Agency needs to be able to return to issues previously discussed, if necessary;
- The Agency is prepared to share information with Iran if and when the Agency considers it to be appropriate to the conduct of effective verification; and
- The Agency needs to be able to confirm the satisfactory resolution of all of the issues identified in the annex to GOV/2011/65 before it considers them to be no longer outstanding and report them as such to the Board of Governors.

C. Facilities Declared under Iran's Safeguards Agreement

8. Under its Safeguards Agreement, Iran has declared to the Agency 17 nuclear facilities[9] and nine locations outside facilities where nuclear material is customarily used (LOFs).[10] Notwithstanding that certain of the activities being undertaken by Iran at some of the facilities are contrary to the relevant resolutions of the Board of Governors and the Security Council, as indicated below, the Agency continues to verify the non-diversion of declared material at these facilities and LOFs.

D. Enrichment Related Activities

9. Contrary to the relevant resolutions of the Board of Governors and the Security Council, Iran has not suspended its enrichment related activities in the declared facilities referred to below. All of these activities are under Agency safeguards, and all of the nuclear material, installed cascades and the feed and

[7] Including "programme management structure" and "procurement activities" (GOV/2011/65, annex, section C).

[8] In this regard, it is worth recalling that the Agency's request for access to a specific location at the Parchin site was followed by Iran undertaking extensive activities at this location that have seriously undermined the Agency's ability to conduct effective verification.

[9] Since the Director General's previous report (GOV/2013/27), as a result of an administrative restructuring of ongoing activities, Iran has declared an existing conversion process at the Uranium Conversion Facility (UCF) at Esfahan as a new facility, as indicated in paragraph 45 below. This involved no physical changes to Iran's facilities.

[10] All of the LOFs are situated within hospitals.

withdrawal stations at those facilities are subject to Agency containment and surveillance.[11]

10. Iran has stated that the purpose of enriching UF_6 up to 5% U-235 is the production of fuel for its nuclear facilities[12] and that the purpose of enriching UF_6 up to 20% U-235 is the manufacture of fuel for research reactors.[13]

11. Since Iran began enriching uranium at its declared facilities, it has produced at those facilities:

- 9,704 kg (+744 kg since the Director General's previous report) of UF_6 enriched up to 5% U-235,[14] of which 6,774 kg (+417 kg since the Director General's previous report) remain in the form of UF_6 enriched up to 5% U-235 and the rest has been further processed (as detailed in paragraphs 20, 26 and 40 below); and
- 372.5 kg (+48.5 kg since the Director General's previous report) of UF_6 enriched up to 20% U-235, of which 185.8 kg (+3.8 kg since the Director General's previous report) remain in the form of UF_6 enriched up to 20% U-235[15] and the rest has been further processed (as detailed in paragraph 49 below).

D.1. Natanz

12. **Fuel Enrichment Plant**: FEP is a centrifuge enrichment plant for the production of low enriched uranium (LEU) enriched up to 5% U-235, which was first brought into operation in 2007. The plant is divided into Production Hall A and Production Hall B. According to design information submitted by Iran, eight units, each containing 18 cascades, are planned for Production Hall A, which totals approximately 25,000 centrifuges in 144 cascades. Currently, one unit contains IR-2m centrifuges, five contain IR-1 centrifuges and the other two do not contain centrifuges. Iran has yet to provide the corresponding design information for Production Hall B.

13. In an updated design information questionnaire (DIQ) dated 29 July 2013, Iran informed the Agency of its intention to withdraw the product and tails of the unit containing the IR-2m cascades separately from the product and tails of the units containing the IR-1 cascades. In a letter dated 20 August 2013, Iran informed the Agency that this arrangement would be "temporary in nature".

14. As of 24 August 2013, in Production Hall A, Iran had fully installed 89 IR-1 cascades, partially installed 1 other IR-1 cascade and completed preparatory

[11] In line with normal safeguards practice, small amounts of nuclear material (e.g. some waste and samples) may not be subject to containment and surveillance.

[12] As declared by Iran in its design information questionnaires (DIQs) for the Fuel Enrichment Plant (FEP) at Natanz.

[13] GOV/2010/10, para. 8; as declared by Iran in its DIQ for the Fuel Plate Fabrication Plant (FPFP).

[14] This comprises nuclear material in storage, as well as nuclear material in the cold traps and inside cylinders still attached to the enrichment process.

[15] This comprises nuclear material in storage, nuclear material in the cold traps and inside cylinders still attached to the enrichment process, and nuclear material in cylinders attached to the conversion process.

installation work for the other 36 IR-1 cascades.[16] On that date, Iran declared that it was feeding 54 of the fully installed IR-1 cascades with natural UF_6.

15. Iran has continued to install IR-2m centrifuges in one of the units of Production Hall A.[17] As of 24 August 2013, 6 cascades had been fully installed with IR-2m centrifuges and were under vacuum, and preparatory installation work had been completed for the other 12 IR-2m cascades in the unit.[18] As of the same date, none of the IR-2m centrifuges at FEP had been fed with natural UF_6. Iran has indicated that the performance of IR-2m cascades will be tested using the six fully installed cascades.[19]

16. As previously reported,[20] the Agency has confirmed that, as of 21 October 2012, 85,644 kg of natural UF_6 had been fed into the cascades since production began in February 2007, and a total of 7,451 kg of UF_6 enriched up to 5% U-235 had been produced. Iran has estimated that, between 22 October 2012 and 10 August 2013, a total of 24,946 kg of natural UF_6 was fed into the cascades and a total of approximately 2,253 kg of UF_6 enriched up to 5% U-235 was produced. This would result in a total production of 9,704 kg of UF_6 enriched up to 5% U-235 since production began.

17. Based on the results of the analysis of environmental samples taken at FEP,[21] and other verification activities, the Agency has concluded that the facility has operated as declared by Iran in the relevant DIQ.

18. **Pilot Fuel Enrichment Plant**: PFEP is a pilot LEU production, and research and development (R&D) facility, which was first brought into operation in October 2003. It can accommodate six cascades, and is divided between an area designated by Iran for the production of UF_6 enriched up to 20% U-235 (Cascades 1 and 6) and an area designated by Iran for R&D (Cascades 2, 3, 4 and 5).

19. ***Production area***: As of 16 August 2013, Iran was continuing to feed low enriched UF_6 into two interconnected cascades (Cascades 1 and 6) containing a total of 328 IR-1 centrifuges.

20. As previously reported,[22] the Agency has verified that, as of 15 September 2012, 1,119.6 kg of UF_6 enriched up to 5% U-235 produced at FEP had been fed into the cascades in the production area since production began in February 2010, and that a total of 129.1 kg of UF_6 enriched up to 20% U-235 had been produced. Iran has estimated that, between 16 September 2012 and 16 August 2013, a total of 335.7 kg of UF_6 enriched up to 5% U-235 produced at FEP was fed into the cascades in the production area and that approximately 48.7 kg of UF_6 enriched up to 20% U-235 were produced. This would result in a total production of 177.8 kg of UF_6 enriched up to 20% U-235 at PFEP since production began, of which 174.6 kg have been withdrawn from the process and verified by the Agency.

---

[16] As of 24 August 2013, 15,416 IR-1 centrifuges (+1,861 since the Director General's previous report) were installed in FEP.

[17] GOV/2013/6, para. 13.

[18] As of 24 August 2013, 1,008 IR-2m centrifuges were installed in FEP.

[19] Iran provided this information during a DIV carried out by the Agency at FEP on 11 August 2013.

[20] GOV/2012/55, para. 13.

[21] Results are available to the Agency for samples taken up to 3 December 2012.

[22] GOV/2012/55, para. 18.

21. ***R&D area***: Since the Director General's previous report, Iran has been intermittently feeding natural UF_6 into IR-6s centrifuges as single machines and into IR-1, IR-2m, IR-4 and IR-6 centrifuges, sometimes into single machines and sometimes into cascades of various sizes.[23] The single installed IR-5 centrifuge has yet to be fed with natural UF_6.

22. Between 11 May 2013 and 16 August 2013, a total of approximately 460.7 kg of natural UF_6 was fed into centrifuges in the R&D area, but no LEU was withdrawn as the product and the tails were recombined at the end of the process.

23. Based on the results of the analysis of environmental samples taken at PFEP,[24] and other verification activities, the Agency has concluded that the facility has operated as declared by Iran in the relevant DIQ.

D.2. Fordow

24. **Fordow Fuel Enrichment Plant**: FFEP is, according to the DIQ of 18 January 2012, a centrifuge enrichment plant for the production of UF_6 enriched up to 20% U-235 and the production of UF_6 enriched up to 5% U-235. Additional information from Iran is still needed in connection with this facility, particularly in light of the difference between the original stated purpose of the facility and the purpose for which it is now being used.[25] The facility, which was first brought into operation in 2011, is designed to contain up to 2,976 centrifuges in 16 cascades, divided between Unit 1 and Unit 2. To date, all of the centrifuges installed are IR-1 machines.[26] Iran has yet to inform the Agency which of the cascades are to be used for enrichment of UF_6 up to 5% U-235 and/or for enrichment of UF_6 up to 20% U-235.[27]

25. As of 26 August 2013, Iran was continuing to feed four cascades (configured in two sets of two interconnected cascades) of Unit 2 with UF_6 enriched up to 5% U-235; none of the other 12 cascades in FFEP had been fed with UF_6.

26. As previously reported,[28] the Agency has verified that, as of 17 November 2012, a total of 769 kg of UF_6 enriched up to 5% U-235 produced at FEP had been fed into cascades at FFEP since production began in December 2011, and that 101.2 kg of UF_6 enriched up to 20% U-235 had been produced. Iran has estimated that between 18 November 2012 and 16 August 2013, a total of 653.1 kg of UF_6 enriched up to 5% U-235 was fed into cascades at FFEP, and that approximately 93.5 kg of UF_6 enriched up to 20% U-235 were produced. This would result in a total production of 194.7 kg of UF_6 enriched up to 20% U-235 since production

---

[23] On 12 August 2013, there were 17 IR-4 centrifuges, 12 IR-6 centrifuges, 8 IR-6s centrifuges and 1 IR-5 centrifuge installed in Cascade 2, a total of 18 IR-1 centrifuges and IR-2m centrifuges installed in Cascade 3, 164 IR-4 centrifuges installed in Cascade 4 and 162 IR-2m centrifuges installed in Cascade 5.

[24] Results are available to the Agency for samples taken up to 15 April 2013.

[25] GOV/2009/74, paras. 7 and 14; GOV/2012/9, para. 24. To date, Iran has provided the Agency with an initial DIQ and three revised DIQs. Each of the DIQs has stated a different purpose for the enrichment facility.

[26] As of 26 August 2013, 2710 centrifuges were installed at FFEP (unchanged from the Director General's previous report).

[27] In a letter dated 23 May 2012, Iran informed the Agency that it would be notified about the enrichment level of the cascades prior to their operation (GOV/2012/23, para. 25).

[28] GOV/2013/6, para. 26.

began, 186.3 kg of which have been withdrawn from the process and verified by the Agency.

27. Based on the results of the analysis of environmental samples taken at FFEP,[29] and other verification activities, the Agency has concluded that the facility has operated as declared by Iran in its most recent DIQ for FFEP.

D.3. Other Enrichment Related Activities

28. Iran has not provided a substantive response to Agency requests for design information in relation to announcements made by Iran concerning the construction of ten new uranium enrichment facilities, the sites for five of which, according to Iran, have been decided.[30] Nor has Iran provided information, as requested by the Agency, in connection with its announcement on 7 February 2010 that it possessed laser enrichment technology.[31] As a result of Iran's lack of cooperation on those issues, the Agency is unable to verify and report fully on these matters.

E. Reprocessing Activities

29. Pursuant to the relevant resolutions of the Board of Governors and the Security Council, Iran is obliged to suspend its reprocessing activities, including R&D.[32] Iran has stated that it "does not have reprocessing activities".[33]

30. The Agency has continued to monitor the use of hot cells at the Tehran Research Reactor (TRR)[34] and the Molybdenum, Iodine and Xenon Radioisotope Production (MIX) Facility.[35] The Agency carried out a physical inventory verification (PIV) and design information verification (DIV) at TRR on 11 August 2013, and a DIV at the MIX Facility on 31 July 2013. It is only with respect to TRR, the MIX Facility and the other facilities to which the Agency has access that the Agency can confirm that there are no ongoing reprocessing related activities in Iran.

F. Heavy Water Related Projects

31. Contrary to the relevant resolutions of the Board of Governors and the Security Council, Iran has not suspended work on all heavy water related projects, including, at Arak, the ongoing construction of the Iran Nuclear Research Reactor (IR-40 Reactor), which is under Agency safeguards, and the production of heavy

---

[29] Results are available to the Agency for samples taken up to 17 April 2013.

[30] "Iran Specifies Location for 10 New Enrichment Sites", Fars News Agency, 16 August 2010.

[31] Cited on the website of the Presidency of the Islamic Republic of Iran, 7 February 2010, at http://www.president.ir/en/?ArtID=20255.

[32] S/RES/1696 (2006), para. 2; S/RES/1737 (2006), para. 2; S/RES/1747 (2007), para. 1; S/RES/1803 (2008), para. 1; S/RES/1835 (2008), para. 4; and S/RES/1929 (2010), para. 2.

[33] Letter to the Agency dated 15 February 2008.

[34] TRR is a 5 MW reactor which operates with 20% U-235 enriched fuel and is used for the irradiation of different types of targets and for research and training purposes.

[35] The MIX Facility is a hot cell complex for the separation of radiopharmaceutical isotopes from targets, including uranium, irradiated at TRR. The MIX Facility is not currently processing any uranium targets.

water at the Heavy Water Production Plant (HWPP), which is not under Agency safeguards.[36]

32. **IR-40 Reactor**: The IR-40 Reactor is a 40 MW heavy water moderated research reactor designed to contain 150 fuel assemblies containing natural uranium in the form of UO_2.

33. On 7 August 2013, the Agency carried out a DIV at the IR-40 Reactor and observed that, since the Director General's previous report,[37] the reactor vessel had been placed into position. A number of other major components had yet to be installed, including the control room equipment, the refuelling machine and reactor cooling pumps. During the DIV, Iran informed the Agency that it had produced about 90 tons of heavy water and indicated that it would have sufficient heavy water for the commissioning of the IR-40 Reactor.[38]

34. Since the Director General's previous report, Iran has started to produce fuel assemblies containing nuclear material for the IR-40 Reactor (see paragraph 47 below).

35. In a letter dated 25 August 2013, Iran informed the Agency that "based on the practical progress of construction work" the previously indicated "start-up"[39] date for the IR-40 Reactor was "not achievable, so it cannot be the first quarter of 2014".[40]

36. Contrary to Iran's obligations under the modified Code 3.1 of the General Part of the Subsidiary Arrangements to its Safeguards Agreement and although the Agency has made repeated requests, Iran has not provided the Agency with an updated DIQ for the IR-40 Reactor since 2006.[41] At that time, the IR-40 Reactor was in a very early stage of construction. As the commencement of the IR-40 Reactor's operation approaches, the lack of up to date design information is having an increasingly adverse impact on the Agency's ability to verify the design of the facility and to implement an effective safeguards approach.[42] The Agency requires this information as early as possible in order, inter alia, to ensure that all possible diversion paths are identified, and appropriate safeguards measures and customized safeguards equipment are put in place.

37. **Heavy Water Production Plant**: The HWPP is a facility for the production of heavy water with a design capacity to produce 16 tons of heavy water of nuclear grade per year.

---

[36] S/RES/1737 (2006), para. 2; S/RES/1747 (2007), para. 1; S/RES/1803 (2008), para. 1; S/RES/1835 (2008), para. 4; and S/RES/1929 (2010), para. 2.

[37] GOV/2013/27, para. 32.

[38] In response to questions from the Agency arising from Iran's DIQ of May 2006, Iran had informed the Agency in October 2006 that the IR-40 Reactor required 100 tons of heavy water.

[39] Iran subsequently indicated to the Agency that "start-up" means commissioning using nuclear material.

[40] GOV/2013/27, para. 32.

[41] The most recent DIQ for the IR-40 Reactor provided by Iran was dated 24 May 2006. In October 2006 and January 2007, in response to requests from the Agency, Iran provided some additional information with respect to that DIQ. In May 2013, Iran provided some updated information regarding the reactor vessel received at the IR-40 Reactor site. However, key characteristics of the facility design have still not been provided. In its letter of 25 August 2013, Iran noted that a revised DIQ would be submitted to the Agency "at least six months prior to the first introduction of nuclear material into the facility".

[42] GOV/2012/37, para. 46.

38. Despite repeated requests from the Agency, most recently in a letter dated 1 August 2013, Iran has not provided access to the HWPP since the Agency's visit there on 17 August 2011. As a result, the Agency is relying only on satellite imagery to monitor the status of the HWPP. Based on recent images available to the Agency, the plant appears to continue to be in operation. To date, despite repeated requests from the Agency, most recently in a letter dated 31 July 2013, Iran has not permitted the Agency to take samples of the heavy water stored at the Uranium Conversion Facility (UCF).[43] In a letter dated 3 August 2013, Iran described the Agency's requests for a follow-up visit to the HWPP and for the taking of samples from the heavy water stored at UCF as "not justified and fall beyond the scope of Iran's Safeguards Agreement".

G. Uranium Conversion and Fuel Fabrication

39. Although Iran is obliged to suspend all enrichment related activities and heavy water related projects, it is conducting a number of activities at UCF, the Enriched UO_2 Powder Plant (EUPP),the Fuel Manufacturing Plant (FMP) and the Fuel Plate Fabrication Plant (FPFP) at Esfahan, as indicated below, which are in contravention of those obligations, notwithstanding that the facilities are under Agency safeguards.

40. Since Iran began conversion and fuel fabrication at its declared facilities, it has, inter alia:

- Produced 550 tons of natural UF_6 at UCF, of which 120 tons have been transferred to FEP;[44]
- Fed into the R&D conversion process at UCF 53 kg of UF_6 enriched to 3.34% U-235 and produced 24 kg of uranium in the form of UO_2;[45]
- Fed into the conversion process at FPFP 185.1 kg of UF_6 enriched up to 20% U-235 (+44.3 kg since the Director General's previous report) and produced 87.3 kg of uranium in the form of U_3O_8; and
- Transferred to TRR18 fuel assemblies containing uranium enriched up to 20% U-235 and two fuel assemblies containing uranium enriched to 3.34% U-235.

41. **Uranium Conversion Facility**: UCF is a conversion facility for the production of both natural UF_6 and natural UO_2 from uranium ore concentrate (UOC). It is planned that UCF will also produce uranium metal ingots from natural and depleted UF_4, and UF_4 from depleted UF_6.

42. The Agency is still evaluating the results of the PIV carried out at UCF in April 2013.

43. Since the previous report, Iran has continued to conduct R&D conversion activities involving the use of natural UF_6 for the production of UO_2.[46] Iran has

---

[43] GOV/2010/10, paras. 20 and 21.

[44] Since the Director General's previous report, two of the 122 tons of natural UF_6 produced at UCF that previously had been transferred to FEP have been returned to UCF for the commissioning of the EUPP.

[45] GOV/2012/55, para. 35.

[46] GOV/2013/6, para. 38; Iran had previously conducted similar R&D conversion activities using UF_6 enriched up to 3.34% U-235 (GOV/2012/55, para. 35).

declared that, as of 17 August 2013, it had produced 15.3 tons of natural uranium in the form of UO_2 through the conversion of UOC.[47] The Agency has verified that, as of the same date, Iran had transferred 9.6 tons of natural uranium in the form of UO_2 to FMP.

44. The Agency has confirmed Iran's declaration in relation to its recovery of the nuclear material that spilled onto the floor in UCF when a storage tank ruptured last year.[48]

45. **Enriched UO_2 Powder Plant**: In a letter dated 17 July 2013, Iran declared the existing process involving the conversion of UF_6 enriched up to 5% U-235 to produce UO_2 powder as a new facility. In a letter dated 21 August 2013, Iran provided the initial DIQ for this facility, which it refers to as the Enriched UO_2 Powder Plant (EUPP). On 18 August 2013, during a DIV carried out at UCF, Iran indicated that the commissioning of EUPP would start by the end of September 2013.

46. **Fuel Manufacturing Plant**: FMP is a facility for the fabrication of nuclear fuel assemblies for power and research reactors.

47. On 17 and 18 August 2013, the Agency carried out an inspection and a DIV at FMP and confirmed the ongoing manufacture of pellets for the IR-40 Reactor using natural UO_2. As indicated above (paragraph 34), since the Director General's previous report Iran has started to manufacture fuel assemblies containing nuclear material for the IR-40 Reactor. As of 17 August 2013, the Agency had verified that Iran had manufactured ten such assemblies, all of which were stored at FMP.[49]

48. **Fuel Plate Fabrication Plant**: FPFP is a facility for the conversion of UF_6 enriched up to 20% U-235 into U_3O_8 and the manufacture of fuel assemblies made of fuel plates containing U_3O_8.

49. As previously reported,[50] the Agency has verified that, as of 26 September 2012, a total of 82.7 kg of UF_6 enriched up to 20% U-235 had been fed into the conversion process and 38.0 kg of uranium in the form of U_3O_8 had been produced. Iran has estimated that, between 27 September 2012 and 19 August 2013, 102.4 kg of UF_6 enriched up to 20% U-235 were fed into the conversion process at FPFP and 49.3 kg of uranium in the form of U_3O_8 were produced. This would bring the total amount of UF_6 enriched up to 20% U-235 which had been fed into the conversion process to 185.1 kg (125 kg of uranium)[51] and the total amount of uranium in the form of U_3O_8 which had been produced to 87.3 kg. On 19 August 2013, the Agency verified that 10.8 kg of uranium were contained in solid and liquid scrap. The remainder of the uranium that was fed into the process remains in the process and in waste.

50. The Agency has verified that, as of 19 August 2013, Iran had produced at FPFP one experimental fuel assembly and 21 TRR-type fuel assemblies. Eighteen of these fuel assemblies, including the experimental assembly, had been transferred to TRR.

---

[47] Some of the material produced is returned to the conversion process for recycling.

[48] GOV/2012/55, para. 36.

[49] GOV/2013/27, para. 33.

[50] GOV/2012/55, para. 38.

[51] GOV/2012/55, para. 38. In addition, approximately 1.6 kg of UF_6 enriched up to 20% U-235 have been blended with natural UF_6 at PFEP (GOV/2012/23, para. 19).

H. Possible Military Dimensions

51. Previous reports by the Director General have identified outstanding issues related to possible military dimensions to Iran's nuclear programme and actions required of Iran to resolve these.[52] Since 2002, the Agency has become increasingly concerned about the possible existence in Iran of undisclosed nuclear related activities involving military related organizations, including activities related to the development of a nuclear payload for a missile. Iran has dismissed the Agency's concerns, largely on the grounds that Iran considers them to be based on unfounded allegations.[53]

52. The annex to the Director General's November 2011 report (GOV/2011/65) provided a detailed analysis of the information available to the Agency, indicating that Iran has carried out activities that are relevant to the development of a nuclear explosive device. This information is assessed by the Agency to be, overall, credible.[54] Since November 2011, the Agency has obtained more information which further corroborates the analysis contained in that annex.

53. In resolution 1929 (2010), the Security Council reaffirmed Iran's obligations to take the steps required by the Board of Governors in its resolutions GOV/2006/14 and GOV/2009/82, and to cooperate fully with the Agency on all outstanding issues, particularly those which give rise to concerns about the possible military dimensions to Iran's nuclear programme, including by providing access without delay to all sites, equipment, persons and documents requested by the Agency.[55] As indicated in Section B above, it has not been possible for the Agency to begin substantive work with Iran in this regard.

54. **Parchin**: As stated in the annex to the Director General's November 2011 report,[56] information provided to the Agency by Member States indicates that Iran constructed a large explosives containment vessel in which to conduct hydrodynamic experiments;[57] such experiments would be strong indicators of possible nuclear weapon development. The information also indicates that the containment vessel was installed at the Parchin site in 2000. The location at the Parchin site of the vessel was only identified in March 2011, and the Agency notified Iran of that location in January 2012.

55. As previously reported,[58] satellite imagery shows that since the Agency's first request for access to this location,[59] extensive activities and resultant changes have taken place at this location. Since the Director General's previous report, no further significant changes have been observed at this location.

---

[52] See, for example: GOV/2011/65, paras. 38-45 and annex; GOV/2011/29, para. 35; GOV/2011/7, Attachment; GOV/2010/10, paras. 40-45; GOV/2009/55, paras. 18-25; GOV/2008/38, paras. 14-21; GOV/2008/15, paras. 14-25 and annex; GOV/2008/4, paras. 35-42.

[53] GOV/2012/9, para. 8.

[54] GOV/2011/65, annex, section B.

[55] S/RES/1929, paras. 2 and 3.

[56] GOV/2011/65, annex, para. 49.

[57] GOV/2011/65, annex, para. 47.

[58] GOV/2012/37, para. 42.

[59] For a list of the most significant developments observed by the Agency at this location between February 2012 and the publication of the Director General's May 2013 report, see GOV/2012/55, para. 44; GOV/2013/6, para. 52; and GOV/2013/27, para. 55.

56. As previously reported,[60] Iran has stated that the allegation of nuclear activities at the Parchin site is "baseless" and that "the recent activities claimed to be conducted in the vicinity of the location of interest to the Agency, has nothing to do with specified location by the Agency". Iran's explanation for the soil displacement by trucks is that it was "due to construction of Parchin new road and its asphalting".[61]

57. As the Agency has repeatedly made clear to Iran, the extensive activities that Iran has undertaken at the aforementioned location on the Parchin site have seriously undermined the Agency's ability to conduct effective verification. It remains essential that Iran provide substantive answers to the Agency's detailed questions regarding Parchin and the foreign expert,[62] as requested by the Agency since February 2012,[63] and provide access to the location, without further delay.

I. Design Information

58. Contrary to its Safeguards Agreement and relevant resolutions of the Board of Governors and the Security Council, Iran is not implementing the provisions of the modified Code 3.1 of the Subsidiary Arrangements General Part concerning the early provision of design information.[64] This reduces the level of confidence in the absence of other nuclear facilities. The absence of such early design information also has an adverse impact on the Agency's ability to verify the design of a facility and prevents the Agency from implementing an effective safeguards approach. This is particularly relevant to the facilities listed below.

59. **Research reactors**: As indicated above (paragraph 36), updated design information for the IR-40 Reactor is urgently required. As previously reported,[65] although Iran has informed the Agency that four new research reactors "are in preliminary site selection phase" and that certain potential locations were "under evaluation", Iran has not provided any design information in this respect.

60. **Enrichment facilities**: As indicated above (paragraph 28), Iran has not provided design information in relation to the construction of ten new uranium enrichment facilities, including the five for which the sites have been decided.

---

[60] GOV/2012/37, para. 43.

[61] INFCIRC/853, 23 July 2013, para. 69.

[62] GOV/2011/65, annex, para. 44.

[63] GOV/2012/9, para. 8.

[64] In accordance with Article 39 of Iran's Safeguards Agreement, agreed Subsidiary Arrangements cannot be changed unilaterally; nor is there a mechanism in the Safeguards Agreement for the suspension of provisions agreed to in the Subsidiary Arrangements. Therefore, as previously explained in the Director General's reports (see, for example, GOV/2007/22, 23 May 2007), the modified Code 3.1, as agreed to by Iran in 2003, remains in force. Iran is further bound by operative paragraph 5 of Security Council resolution 1929 (2010) to "comply fully and without qualification with its IAEA Safeguards Agreement, including through the application of modified Code 3.1".

[65] GOV/2013/27, para. 60.

61. **Nuclear power plants**: Following reports that Iran had identified 16 sites designated for the construction of nuclear power plants[66] and in response to the Agency's request for relevant design information and construction schedules, Iran reiterated that the Agency would receive the requested information "in due time".

J. Additional Protocol

62. Contrary to the relevant resolutions of the Board of Governors and the Security Council, Iran is not implementing its Additional Protocol. The Agency will not be in a position to provide credible assurance about the absence of undeclared nuclear material and activities in Iran unless and until Iran provides the necessary cooperation with the Agency, including by implementing its Additional Protocol.[67]

K. Other Matters

63. On 26 May 2013, the Agency carried out a PIV at the Heavy Water Zero Power Reactor at Esfahan and verified the presence of 36 prototype fuel assemblies, which had been received from FMP for testing.

64. During an inspection carried out on 11 August 2013, the Agency confirmed that five fuel assemblies that had been produced in Iran and which contain uranium that was enriched in Iran up to 3.5% and up to 20% U-235 were in the core of TRR.[68] On the same date, the Agency observed that the prototype IR-40 fuel assembly was stored in the spent fuel pool at TRR following an initial irradiation in early 2013.

65. In a letter dated 4 August 2013, Iran informed the Agency that, by the first week of September 2013, the MIX facility would receive from FPFP fuel plates containing a "mixture of U_3O_8 (up to 20% enriched) and aluminium" for the production of "^{99}Mo, ^{133}Xe and ^{132}I" isotopes following irradiation of the plates in TRR.

66. On 12 and 13 August 2013, the Agency conducted an inspection at the Bushehr Nuclear Power Plant, at which time the reactor was operating at 100% of its nominal power.

L. Summary

67. While the Agency continues to verify the non-diversion of declared nuclear material at the nuclear facilities and LOFs declared by Iran under its Safeguards Agreement, as Iran is not providing the necessary cooperation, including by not implementing its Additional Protocol, the Agency is unable to provide credible

---

[66] GOV/2013/27, para. 62.

[67] Iran's Additional Protocol was approved by the Board of Governors on 21 November 2003 and signed by Iran on 18 December 2003, although it has not been brought into force. Iran provisionally implemented its Additional Protocol between December 2003 and February 2006.

[68] On 11 August 2013, the core of TRR comprised a total of 33 fuel assemblies.

assurance about the absence of undeclared nuclear material and activities in Iran, and therefore to conclude that all nuclear material in Iran is in peaceful activities.[69]

68. Iran continues not to implement modified Code 3.1 of its Subsidiary Arrangements General Part, notwithstanding statements it has made in relation to the construction of new research reactors, new uranium enrichment facilities and new power reactors. Moreover, the lack of up-to-date design information on the IR-40 reactor continues to have an increasingly adverse impact on the Agency's ability to effectively verify the design of the facility and to implement an effective safeguards approach.

69. Contrary to the Board of Governors' resolutions of November 2011 and September 2012 and despite the intensified dialogue between the Agency and Iran since January 2012 in ten rounds of talks, it has not been possible to reach agreement on the structured approach document. The next round of talks is scheduled for 27 September 2013. Given the nature and extent of credible information available to the Agency about possible military dimensions to Iran's nuclear programme, it remains essential and urgent for Iran to engage with it on the substance of the Agency's concerns. Unless Iran addresses the Agency's requirement to conduct effective verification, it will not be possible for the Agency to resolve outstanding issues, including those relating to possible military dimensions to Iran's nuclear programme.

70. The extensive and significant activities which have taken place at the location within the Parchin site to which the Agency has repeatedly requested access have seriously undermined the Agency's ability to undertake effective verification. The Agency reiterates its request that Iran, without further delay, provide substantive answers to the Agency's detailed questions regarding Parchin and the foreign expert, and provide access to the aforementioned location.

71. The Director General continues to urge Iran to fully implement its Safeguards Agreement and its other obligations and to engage with the Agency to achieve concrete results on all outstanding substantive issues, as required in the binding resolutions of the Board of Governors and the mandatory Security Council resolutions.

72. The Director General will continue to report as appropriate.

---

[69] The Board of Governors has confirmed on numerous occasions, since as early as 1992, that paragraph 2 of INFCIRC/153 (Corr.), which corresponds to Article 2 of Iran's Safeguards Agreement, authorizes and requires the Agency to seek to verify both the non-diversion of nuclear material from declared activities (i.e. correctness) and the absence of undeclared nuclear activities in the State (i.e. completeness) (see, for example, GOV/OR.864, para. 49 and GOV/OR.865, paras 53-54).